



US Army Corps  
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Baltimore District

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Pages

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**FAX COVER SHEET**

TO: Mr. Randy Sturgeon  
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Philadelphia, PA 19107

PROJECT: E.I. Dupont South Landfill Superfund Site

FROM: Justina T. Wesley, HTRW Branch, Non-Military Section  
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**COMMENTS:**

Randy:

The comments for the above document are enclosed for your information. If you have any questions or require any additional information please contact me at the telephone number listed above.

  
Justina T. Wesley  
DESIGN MANAGER

CENAB-EN-G

30 November 1995

E.I. DuPont Newport Superfund Site - South Landfill  
Geotechnical Comments on Value Engineering Report

1. Page 6, Paragraph 4.1.2 - Soil-Bentonite Slurry Trench. The proposed soil-bentonite slurry trench should provide the  $1 \times 10^{-7}$  cm/sec permeability required by the ROD. However, if it will be necessary to verify the continuity and the in-situ permeability by sampling the completed backfill, consideration should be given to increasing the proposed 24-inch trench width to a minimum of 36 inches.
2. Page 7, Paragraph 4.1.2 - Options Considered. This paragraph states that four technologies for providing a vertical barrier, other than a soil-bentonite slurry wall, were evaluated and eliminated. However, there is no discussion of specifically why these options were rejected. As discussed further below, a number of the rejected options appear to be more effective than the recommended jet grouting option.
3. Page 15, Paragraph 5.2 - Jet Grouting. There is virtually no discussion of the technical merits of jet grouting compared to other vertical barrier options that would address the need to provide structural support for the Basin Road. The following issues should be addressed:
  - a. What means would be used to verify the continuity of the jet grouted wall? It would seem that the rejected cement-bentonite wall, or a Soilsaw™ jet grouted wall, would provide much greater assurance of continuity than the jet grouted wall.
  - b. What are the subsurface conditions at the specific jet grout sites and why is jet grouting the most effective solution considering those conditions?
  - c. How would the desired  $1 \times 10^{-6}$  cm/sec permeability of the wall be verified? If undisturbed samples were obtained and tested, it would be difficult to demonstrate that any particular sample was representative of the entire wall.
  - d. What hole spacing is proposed and what is the anticipated radius of the grouted area? What degree of overlap is required to assure that the average permeability of the wall is  $1 \times 10^{-6}$  cm/sec?
  - e. Why is  $1 \times 10^{-6}$  cm/sec acceptable if the ROD specified  $1 \times 10^{-7}$  cm/sec?
  - f. Jet grouting has typically been used to improve foundations for the purpose of supporting compressive loads rather than to provide a low permeability vertical barrier. Provide examples of the successful application of this technology to create a vertical barrier under similar subsurface conditions. How was the performance of jet grouted walls as flow barriers evaluated?
4. Questions on these comments should be directed to Michael R. Snyder (410) 962-4772.

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CENAB-EN-GG

27 November 1995

VALUE ENGINEERING REPORT FOR  
THE SOUTH LANDFILL AND PLANT AREA  
NEWPORT, DELAWARE  
GEOLOGY & INVESTIGATIONS SECTION REVIEW

1. Was a groundwater flow study conducted in a previous investigation phase for this site? The Value Engineering Report for the South Landfill and Plant Area did not discuss groundwater issues - a paragraph on current groundwater conditions at this site could clarify rationale for SB trench selection in this report.

2. Questions concerning these comments should be directed to Mike St.Clair, ext. 26648.